

Claims

1. A method of controlling a queue buffer arranged to queue  
5 data units received over a communication network,  
comprising:

invoking a congestion notification procedure (S3) under  
a predetermined condition (S1, S2),  
characterized in that

10 said congestion notification procedure (S3) comprises  
determining (S31) whether one or more of said queued  
data units contains a predetermined information, and if  
no queued data units contain said predetermined  
information, performing (S32) a congestion notification  
15 with respect to one or more queued data units, and if  
one or more queued data units contain said predetermined  
information, preventing a performance of a congestion  
notification at least with respect to said data units  
containing said predetermined information.

20 2. The method of claim 1, wherein said performing of said  
congestion notification with respect to a given data  
unit comprises one of dropping said given data unit and  
marking said given data unit with a congestion notifier.

25 3. The method of claim 1 or claim 2, wherein if one or more  
queued data units contain said predetermined  
information, performance of congestion notification with  
respect to any queued data units is prevented.

30 4. The method of claim 1 or claim 2, wherein if one or more  
queued data units contain said predetermined  
information, performance of congestion notification with  
respect to all data units belonging to a same flow as  
35 said data units containing said predetermined  
information is prevented.

5. A method of controlling a data unit sender (52) for sending data units (54) over a communication network (3), comprising:  
determining (S21) whether one or more data units of a flow of data units fulfils a congestion notification prevention condition, and  
if said one or more data units of said flow fulfil said congestion notification prevention condition, setting (S22) predetermined congestion notification prevention information in at least said one or more data units of said flow.
10. A method according to claim 5, wherein said step (S21) of determining whether a congestion notification prevention condition is fulfilled comprises the analysing of higher layer information.
15. The method of claim 5 or 6, wherein said congestion notification prevention condition comprises that the flow is coming to an end.
20. The method of one of claims 5 to 7, wherein said congestion notification prevention condition comprises that said flow is application limited.
25. The method of one of claims 5 to 8, wherein said congestion notification prevention condition comprises that said one or more data units of said flow carry predetermined signalling identifiers.
30. The method of one of claims 5 to 9, wherein said data unit sender (52) is part of a proxy server (46).
35. The method of claim 10, wherein said proxy server (46) is connected to a mobile communication network (41) and arranged for receiving data units from a sending end point (47) outside of said mobile communication network

(41) and relaying said data units to a receiving end point (43) connected to said mobile communication network (41).

- 5 12. The method of one of claims 5 to 11, wherein said predetermined congestion notification prevention information is a single bit.
- 10 13. The method of one of claims 5 to 11, wherein said predetermined congestion notification prevention information is a data unit count-down value that counts down the number of data units remaining in the flow.
- 15 14. A queue buffer controller (10) for controlling a queue buffer (20) arranged to queue data units (30) received over a communication network (3), comprising:  
a congestion notifier (103) for invoking a congestion notification procedure under a predetermined condition, characterized in that  
20 said congestion notifier (103) comprises a part (1031) for determining whether one or more of said queued data units contains a predetermined information, and if no queued data units contain said predetermined information, for performing a congestion notification with respect to one or more queued data units, and if one or more queued data units contain said predetermined information, for preventing a performance of a congestion notification at least with respect to said data units containing said predetermined information.  
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- 30 15. The queue buffer controller of claim 14, wherein said part (1031) of said congestion notifier (103) is arranged to prevent performance of congestion notification with respect to any queued data units if one or more queued data units contain said predetermined information.
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16. The queue buffer controller of claim 14, wherein said part (1031) of said congestion notifier (103) is arranged to prevent performance of congestion notification with respect to all data units belonging to a same flow as said data units containing said predetermined information if one or more queued data units contain said predetermined information.  
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17. A controller (51) for controlling a data unit sender (52) for sending data units (54) over a communication network (3), comprising:  
10 an element (510) for determining whether one or more data units of a flow of data units fulfils a congestion notification prevention condition, and if said one or more data units of said flow fulfil said congestion notification prevention condition, for setting predetermined congestion notification prevention information at least in said one or more data units of said flow.  
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18. The controller (51) according to claim 17, wherein said element (510) for determining whether a congestion notification prevention condition is fulfilled,  
20 comprises an element for analysing of higher layer information.  
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19. The controller of claim 17 or 18, wherein said congestion notification prevention condition comprises that the flow is coming to an end.  
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20. The controller of one of claims 17 to 19, wherein said congestion notification prevention condition comprises that said flow is application limited.
- 35 21. The controller of one of claims 17 to 20, wherein said congestion notification prevention condition comprises

that said one or more data units of said flow carry predetermined signalling identifiers.

22. The controller of one of claims 17 to 21, wherein said  
5 data unit sender (52) is part of a proxy server (46).

23. The controller of claim 22, wherein said proxy server  
10 (46) is connected to a mobile communication network (41)  
and arranged for receiving data units from a sending end  
point (47) outside of said mobile communication network  
(41) and relaying said data units to a receiving end  
point (43) connected to said mobile communication  
network (41).

15 24. The controller of one of claims 17 to 23, wherein said  
predetermined congestion notification prevention  
information is a single bit.

20 25. The controller of one of claims 17 to 23, wherein said  
predetermined congestion notification prevention  
information is a data unit count-down value that counts  
down the number of data units remaining in the flow.